METHOD AND APPARATUS FOR PREDICTING THE ONSET OF SEIZURES BASED ON FEATURES DERIVED FROM SIGNALS INDICATIVE OF BRAIN ACTIVITY

Patent number: EP1107693

Publication date: 2001-06-20

Inventor: LITT BRIAN (US); VACHTSEVANOS GEORGE (US); ECHAUZ JAVIER (US); ESTELLER ROSANA (US)

Applicant: UNIV EMORY (US)

Classification:

- international: *G06F17/00; G06F19/00;* G06F17/00; G06F19/00; (IPC1-7): A61B5/04

- european: G06F17/00D4E; G06F19/00A

Application number: EP19990946634 19990824

Priority number(s): WO1999US19387 19990824; US19980097580P 19980824; US19990129420P 19990415

Also published as:

WO0010455 (A1)
WO0010455 (A1)
EP1107693 (A1)

Cited documents:

WO9726823
US3863625
US5311876
US5720294
XP008012666

Report a data error here

Abstract not available for EP1107693
Abstract of correspondent: **WO0010455**

This invention is a method, and system for predicting the onset of a seizure prior to electrograph onset in an individual. During an "off-line" mode, signals representing brain activity of an individual (either stored or real time) are collected, and features are extracted from those signals. A subset of features, which comprise a feature vector, are selected by a predetermined process to most efficiently predict (and detect) a seizure in that individual. An intelligent prediction subsystem is also trained "off-line" based on the feature vector derived from those signals. During "on-line" operation, features are continuously extracted from real time brain activity signals to form a feacture vector, and the feature vector is continuously analyzed with the intelligent prediction subsystem to predict seizure onset in a patient. The system, and method are preferably implemented in an implanted device (102) that is capable of warning externally an individual of the probability of a seizure, and/or automatically taking preventative actions to abort the seizure. In addition, methods are provided for applying intervention measures to an animal to abort or modulat a seizure by adjusting the modality of an intervention measure; and/or parameters of an intervention measure based upon a probability measure indicative of a likelihood of seizure occurrence; and/or a predicted time to seizure onset.
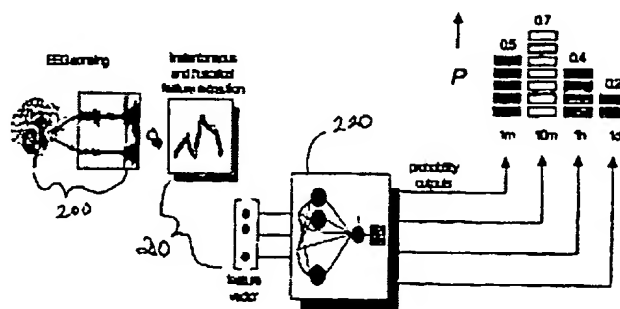
Data supplied from the *esp@cenet* database - Worldwide